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Discussions

Interactive comment on "Water-level attenuation in broad-scale assessments of exposure to coastal flooding: a sensitivity analysis" *by* Athanasios T. Vafeidis et al.

Anonymous Referee #1

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Review of Vafeidis et al. 2019, NHESSD

This paper proposes a new scheme implemented into the framework of coastal flood risk assessment to consider water level attenuation. I think the paper gives new and important insights that the effect of water level attenuation is significantly large, which in some cases are equal to uncertainty of sea level rise projection. The topic of this paper fits well with NHESS and the manuscript is well written and easy to follow. Therefore, I recommend this paper for publication in NHESS after some minor revisions, which are listed below.

P 1, L 1 Basically the target domain of this paper is global, so I think the "broad-scale"

in this title should be reworded as "global-scale" for clarity.

P 4, L 137–138 It is well known that the original SRTM DEM has strong biases. In particular, elevation data in coastal areas are strongly biased by vegetation, e.g. mangrove forest in Bangladesh. This factor may significantly affect the results of global coastal flood risk estimation. Recently a new DEM dataset has been developed where various types of biases are removed (Yamazaki et al. 2017). I do not request the authors to update the input topography data and redo all the analyses, but at least this limitation should be discussed in the manuscript.

P 9, Table 3 Better to replace "People" as "Population".

P 10, L 244–246 I think additional explanations are required about how the three countries are different in terms of "the physical characteristics of the floodplain".

Reference Yamazaki, D., D. Ikeshima, R. Tawatari, T. Yamaguchi, F. O'Loughlin, J. C. Neal, C. C. Sampson, S. Kanae, and P. D. Bates (2017), A high-accuracy map of global terrain elevations, Geophys. Res. Lett., 44, 5844–5853, doi:10.1002/2017GL072874.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., https://doi.org/10.5194/nhess-2018-359, 2018.